



SEQUENCE LISTING

<110> Max-Planck-Gesellschaft zur Förderung der Wissenschaften
e.V.

<120> Cell line comprising vector encoding truncated FLK-1 receptor
Div. of US 09/766 678 (Pat. No. 6 872 699)

<130> 44995P US

<140> US 10/799,782

<141> 2009-06-05

<160> 11

<170> PatentIn version 3.3

<210> 1

<211> 5470

<212> DNA

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Met Glu Ser Lys
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gcg ctg cta gct gtc gct ctg tgg ttc tgc gtg gag acc cga gcc gcc 345
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Ser Val Gly Leu Thr Gly Asp Phe Leu His Pro Pro Lys Leu Ser Thr
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cag aaa gac ata ctg aca att ttg gca aat aca acc ctt cag att act 441
Gln Lys Asp Ile Leu Thr Ile Leu Ala Asn Thr Thr Leu Gln Ile Thr
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Cys Arg Gly Gln Arg Asp Leu Asp Trp Leu Trp Pro Asn Ala Gln Arg
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 35 40 45

Leu Gln Ile Thr Cys Arg Gly Gln Arg Asp Leu Asp Trp Leu Trp Pro
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Asn Ala Gln Arg Asp Ser Glu Glu Arg Val Leu Val Thr Glu Cys Gly
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Gly Gly Asp Ser Ile Phe Cys Lys Thr Leu Thr Ile Pro Arg Val Val
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Gly Asn Asp Thr Gly Ala Tyr Lys Cys Ser Tyr Arg Asp Val Asp Ile
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Ala Ser Thr Val Tyr Val Tyr Val Arg Asp Tyr Arg Ser Pro Phe Ile
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Ala Ser Val Ser Asp Gln His Gly Ile Val Tyr Ile Thr Glu Asn Lys
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Asn Lys Thr Val Val Ile Pro Cys Arg Gly Ser Ile Ser Asn Leu Asn
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Val Ser Leu Cys Ala Arg Tyr Pro Glu Lys Arg Phe Val Pro Asp Gly
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Asn Arg Ile Ser Trp Asp Ser Glu Ile Gly Phe Thr Leu Pro Ser Tyr

Glu Glu Ala Cys Ser Tyr Arg Pro Gly Gln Thr Ser Pro Tyr Ala Cys
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Lys Glu Trp Arg His Val Glu Asp Phe Gln Gly Gly Asn Lys Ile Glu
 485 490 495

Val Thr Lys Asn Gln Tyr Ala Leu Ile Glu Gly Lys Asn Lys Thr Val
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Ser Thr Leu Val Ile Gln Ala Ala Asn Val Ser Ala Leu Tyr Lys Cys
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Glu Ala Ile Asn Lys Ala Gly Arg Gly Glu Arg Val Ile Ser Phe His
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Lys Leu Asn Gly Thr Met Phe Ser Asn Ser Thr Asn Asp Ile Leu Ile
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Val Ala Phe Gln Asn Ala Ser Leu Gln Asp Gln Gly Asp Tyr Val Cys
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Ser Ala Gln Asp Lys Lys Thr Lys Lys Arg His Cys Leu Val Lys Gln
 645 650 655

Leu Ile Ile Leu Glu Arg Met Ala Pro Met Ile Thr Gly Asn Leu Glu
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Asn Gln Thr Thr Thr Ile Gly Glu Thr Ile Glu Val Thr Cys Pro Ala
 675 680 685

Ser Gly Asn Pro Thr Pro His Ile Thr Trp Phe Lys Asp Asn Glu Thr
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Thr Ile Arg Arg Val Arg Lys Glu Asp Gly Gly Leu Tyr Thr Cys Gln
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Ala Cys Asn Val Leu Gly Cys Ala Arg Ala Glu Thr Leu Phe Ile Ile
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 Glu Gly Ala Gln Glu Lys Thr Asn Leu Glu Val Ile Ile Leu Val Gly
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 Thr Ala Val Ile Ala Met Phe Phe Trp Leu Leu Leu Val Ile Val Leu
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 Arg Thr Val Lys Arg Ala Asn Glu Gly Glu Leu Lys Thr Gly Tyr Leu
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 Ser Ile Val Met Asp Pro Asp Glu Leu Pro Leu Asp Glu Arg Cys Glu
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 Arg Leu Pro Tyr Asp Ala Ser Lys Trp Glu Phe Pro Arg Asp Arg Leu
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 Lys Leu Gly Lys Pro Leu Gly Arg Gly Ala Phe Gly Gln Val Ile Glu
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 Ala Asp Ala Phe Gly Ile Asp Lys Thr Ala Thr Cys Lys Thr Val Ala
 850 855 860
 Val Lys Met Leu Lys Glu Gly Ala Thr His Ser Glu His Arg Ala Leu
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 Met Ser Glu Leu Lys Ile Leu Ile His Ile Gly His His Leu Asn Val
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 Val Asn Leu Leu Gly Ala Cys Thr Lys Pro Gly Gly Pro Leu Met Val
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 Ile Val Glu Phe Cys Lys Phe Gly Asn Leu Ser Thr Tyr Leu Arg Gly
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 Lys Arg Asn Glu Phe Val Pro Tyr Lys Ser Lys Gly Ala Arg Phe Arg
 930 935 940
 Gln Gly Lys Asp Tyr Val Gly Glu Leu Ser Val Asp Leu Lys Arg Arg
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 Leu Asp Ser Ile Thr Ser Ser Gln Ser Ser Ala Ser Ser Gly Phe Val
 965 970 975
 Glu Glu Lys Ser Leu Ser Asp Val Glu Glu Glu Glu Ala Ser Glu Glu
 980 985 990
 Leu Tyr Lys Asp Phe Leu Thr Leu Glu His Leu Ile Cys Tyr Ser Phe
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Gln	Val	Ala	Lys	Gly	Met	Glu	Phe	Leu	Ala	Ser	Arg	Lys	Cys	Ile
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His	Arg	Asp	Leu	Ala	Ala	Arg	Asn	Ile	Leu	Leu	Ser	Glu	Lys	Asn
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Val	Val	Lys	Ile	Cys	Asp	Phe	Gly	Leu	Ala	Arg	Asp	Ile	Tyr	Lys
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Asp	Pro	Asp	Tyr	Val	Arg	Lys	Gly	Asp	Ala	Arg	Leu	Pro	Leu	Lys
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Trp	Met	Ala	Pro	Glu	Thr	Ile	Phe	Asp	Arg	Val	Tyr	Thr	Ile	Gln
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Ser	Asp	Val	Trp	Ser	Phe	Gly	Val	Leu	Leu	Trp	Glu	Ile	Phe	Ser
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Leu	Gly	Ala	Ser	Pro	Tyr	Pro	Gly	Val	Lys	Ile	Asp	Glu	Glu	Phe
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Cys	Arg	Arg	Leu	Lys	Glu	Gly	Thr	Arg	Met	Arg	Ala	Pro	Asp	Tyr
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 Asn Ala Gln Arg Asp Ser Glu Glu Arg Val Leu Val Thr Glu Cys Gly
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 Gly Asn Asp Thr Gly Ala Tyr Lys Cys Ser Tyr Arg Asp Val Asp Ile
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 Ala Ser Thr Val Tyr Val Tyr Val Arg Asp Tyr Arg Ser Pro Phe Ile
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 Ala Ser Val Ser Asp Gln His Gly Ile Val Tyr Ile Thr Glu Asn Lys
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 145 150 155 160
 Val Ser Leu Cys Ala Arg Tyr Pro Glu Lys Arg Phe Val Pro Asp Gly
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 Asn Arg Ile Ser Trp Asp Ser Glu Ile Gly Phe Thr Leu Pro Ser Tyr
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 Met Ile Ser Tyr Ala Gly Met Val Phe Cys Glu Ala Lys Ile Asn Asp
 195 200 205
 Glu Thr Tyr Gln Ser Ile Met Tyr Ile Val Val Val Val Gly Tyr Arg
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 Ile Tyr Asp Val Ile Leu Ser Pro Pro His Glu Ile Glu Leu Ser Ala
 225 230 235 240
 Gly Glu Lys Leu Val Leu Asn Cys Thr Ala Arg Thr Glu Leu Asn Val
 245 250 255
 Gly Leu Asp Phe Thr Trp His Ser Pro Pro Ser Lys Ser His His Lys
 260 265 270
 Lys Ile Val Asn Arg Asp Val Lys Pro Phe Pro Gly Thr Val Ala Lys
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 Met Phe Leu Ser Thr Leu Thr Ile Glu Ser Val Thr Lys Ser Asp Gln
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 Gly Glu Tyr Thr Cys Val Ala Ser Ser Gly Arg Met Ile Lys Arg Asn

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 325 330 335
 Gly Met Lys Ser Leu Val Glu Ala Thr Val Gly Ser Gln Val Arg Ile
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 Pro Val Lys Tyr Leu Ser Tyr Pro Ala Pro Asp Ile Lys Trp Tyr Arg
 355 360 365
 Asn Gly Arg Pro Ile Glu Ser Asn Tyr Thr Met Ile Val Gly Asp Glu
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 Leu Thr Ile Met Glu Val Thr Glu Arg Asp Ala Gly Asn Tyr Thr Val
 385 390 395 400
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 Pro Met Asp Ser Tyr Gln Tyr Gly Thr Met Gln Thr Leu Thr Cys Thr
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 Val Tyr Ala Asn Pro Pro Leu His His Ile Gln Trp Tyr Trp Gln Leu
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 Lys Glu Trp Arg His Val Glu Asp Phe Gln Gly Gly Asn Lys Ile Glu
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 Val Thr Lys Asn Gln Tyr Ala Leu Ile Glu Gly Lys Asn Lys Thr Val
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 Ser Thr Leu Val Ile Gln Ala Ala Asn Val Ser Ala Leu Tyr Lys Cys
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 Glu Ala Ile Asn Lys Ala Gly Arg Gly Glu Arg Val Ile Ser Phe His
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 Glu Gln Glu Ser Val Ser Leu Leu Cys Thr Ala Asp Arg Asn Thr Phe
 565 570 575
 Glu Asn Leu Thr Trp Tyr Lys Leu Gly Ser Gln Ala Thr Ser Val His
 580 585 590

Met Gly Glu Ser Leu Thr Pro Val Cys Lys Asn Leu Asp Ala Leu Trp
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Lys Leu Asn Gly Thr Met Phe Ser Asn Ser Thr Asn Asp Ile Leu Ile
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Val Ala Phe Gln Asn Ala Ser Leu Gln Asp Gln Gly Asp Tyr Val Cys
625 630 635 640

Ser Ala Gln Asp Lys Lys Thr Lys Lys Arg His Cys Leu Val Lys Gln
645 650 655

Leu Ile Ile Leu Glu Arg Met Ala Pro Met Ile Thr Gly Asn Leu Glu
660 665 670

Asn Gln Thr Thr Thr Ile Gly Glu Thr Ile Glu Val Thr Cys Pro Ala
675 680 685

Ser Gly Asn Pro Thr Pro His Ile Thr Trp Phe Lys Asp Asn Glu Thr
690 695 700

Leu Val Glu Asp Ser Gly Ile Val Leu Arg Asp Gly Asn Arg Asn Leu
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Thr Ile Arg Arg Val Arg Lys Glu Asp Gly Gly Leu Tyr Thr Cys Gln
725 730 735

Ala Cys Asn Val Leu Gly Cys Ala Arg Ala Glu Thr Leu Phe Ile Ile
740 745 750

Glu Gly Ala Gln Glu Lys Thr Asn Leu Glu Val Ile Ile Leu Val Gly
755 760 765

Thr Ala Val Ile Ala Met Phe Phe Trp Leu Leu Leu Val Ile Val Leu
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<220>
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Lys Phe Gly	Asn Leu Ser Thr Tyr	Leu Arg Gly Lys Arg	Asn Glu Phe
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Val Pro Tyr	Lys Ser Lys Gly Ala Arg	Phe Arg Gln Gly	Lys Asp Tyr
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Val Gly Glu	Leu Ser Val Asp Leu Lys	Arg Arg Leu Asp	Ser Ile Thr
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Ser Ser Gln	Ser Ser Ala Ser Ser	Gly Phe Val Glu	Glu Lys Ser Leu
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Ser Asp Val	Glu Glu Glu Glu Ala Ser	Glu Glu Leu Tyr	Lys Asp Phe
	100	105	110
Leu Thr Leu	Glu His Leu Ile Cys Tyr	Ser Phe Gln Val	Ala Lys Gly
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Met Glu Phe	Leu Ala Ser Arg Lys Cys	Ile His Arg Asp	Leu Ala Ala
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Arg Asn Ile	Leu Leu Ser Glu Lys Asn	Val Val Lys Ile	Cys Asp Phe
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Met Glu Ser Lys Ala Leu Leu Ala	

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Val	Ala	Leu	Trp	Phe	Cys	Val	Glu	Thr	Arg	Ala	Ala	Ser	Val	Gly	Leu		
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Arg	Val	Leu	Val	Thr	Glu	Cys	Gly	Gly	Gly	Asp	Ser	Ile	Phe	Cys	Lys		
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tgc	tcg	tac	cgg	gac	gtc	gac	ata	gcc	tcc	act	gtt	tat	gtc	tat	gtt	569	
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Ile	Val	Tyr	Ile	Thr	Glu	Asn	Lys	Asn	Lys	Thr	Val	Val	Ile	Pro	Cys		
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gaa	aag	aga	ttt	gtt	ccg	gat	gga	aac	aga	att	tcc	tgg	gac	agc	gag	761	
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Phe	Cys	Glu	Ala	Lys	Ile	Asn	Asp	Glu	Thr	Tyr	Gln	Ser	Ile	Met	Tyr		
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Pro	His	Glu	Ile	Glu	Leu	Ser	Ala	Gly	Glu	Lys	Leu	Val	Leu	Asn	Cys		
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Pro	Pro	Ser	Lys	Ser	His	His	Lys	Lys	Ile	Val	Asn	Arg	Asp	Val	Lys		
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Ser Gly Arg Met Ile Lys Arg Asn Arg Thr Phe Val Arg Val His Thr	
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Tyr Thr Met Ile Val Gly Asp Glu Leu Thr Ile Met Glu Val Thr Glu	
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Arg Asp Ala Gly Asn Tyr Thr Val Ile Leu Thr Asn Pro Ile Ser Met	
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Phe Gln Gly Gly Asn Lys Ile Glu Val Thr Lys Asn Gln Tyr Ala Leu	
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Leu	Arg	Asp	Gly	Asn	Arg	Asn	Leu	Thr	Ile	Arg	Arg	Val	Arg	Lys	Glu	
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gat	gga	ggc	ctc	tac	acc	tgc	cag	gcc	tgc	aat	gtc	ctt	ggc	tgt	gca	2441
Asp	Gly	Gly	Leu	Tyr	Thr	Cys	Gln	Ala	Cys	Asn	Val	Leu	Gly	Cys	Ala	
	730					735					740					
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Arg	Ala	Glu	Thr	Leu	Phe	Ile	Ile	Glu	Gly	Ala	Gln	Glu	Lys	Thr	Asn	
745					750				755						760	
ttg	gaa	gtc	att	atc	ctc	gtc	ggc	act	gca	gtg	att	gcc	atg	ttc	ttc	2537
Leu	Glu	Val	Ile	Ile	Leu	Val	Gly	Thr	Ala	Val	Ile	Ala	Met	Phe	Phe	
				765				770						775		
tgg	ctc	ctt	ctt	gtc	att	gtc	cta	cgg	acc	gtt	aag	cgg	gcc	aat	gaa	2585
Trp	Leu	Leu	Leu	Val	Ile	Val	Leu	Arg	Thr	Val	Lys	Arg	Ala	Asn	Glu	
			780					785					790			
ggg	gaa	ctg	aag	aca	ggc	tac	ttg	tct	att	gtc	atg	gat	cca	gat	gaa	2633
Gly	Glu	Leu	Lys	Thr	Gly	Tyr	Leu	Ser	Ile	Val	Met	Asp	Pro	Asp	Glu	
		795					800					805				
ttg	ccc	ttg	gat	gag	cgc	tgt	gaa	cgc	ttg	cct	tat	gat	gcc	agc	aag	2681
Leu	Pro	Leu	Asp	Glu	Arg	Cys	Glu	Arg	Leu	Pro	Tyr	Asp	Ala	Ser	Lys	
	810					815					820					
tgg	gaa	ttc	ccc	agg	gac	cgg	ctg	aaa	cta	gga	aaa	cct	ctt	ggc	cgc	2729

Trp	Glu	Phe	Pro	Arg	Asp	Arg	Leu	Lys	Leu	Gly	Lys	Pro	Leu	Gly	Arg		
825					830					835					840		
ggt	gcc	ttc	ggc	caa	gtg	att	gag	gca	gac	gct	ttt	gga	att	gac	aag		2777
Gly	Ala	Phe	Gly	Gln	Val	Ile	Glu	Ala	Asp	Ala	Phe	Gly	Ile	Asp	Lys		
				845					850					855			
aca	gcg	act	tgc	aaa	aca	gta	gcc	gtc	aag	atg	ttg	aaa	gaa	gga	gca		2825
Thr	Ala	Thr	Cys	Lys	Thr	Val	Ala	Val	Lys	Met	Leu	Lys	Glu	Gly	Ala		
			860					865					870				
aca	cac	agc	gag	cat	cga	gcc	ctc	atg	tct	gaa	ctc	aag	atc	ctc	atc		2873
Thr	His	Ser	Glu	His	Arg	Ala	Leu	Met	Ser	Glu	Leu	Lys	Ile	Leu	Ile		
			875				880					885					
cac	att	ggt	cac	cat	ctc	aat	gtg	gtg	aac	ctc	cta	ggc	gcc	tgc	acc		2921
His	Ile	Gly	His	His	Leu	Asn	Val	Val	Asn	Leu	Gly	Ala	Cys	Thr			
	890					895				900							
aag	ccg	gga	ggg	cct	ctc	atg	gtg	att	ctg	caa	ttc	tcg	aag	ttt	gga		2969
Lys	Pro	Gly	Gly	Pro	Leu	Met	Val	Ile	Leu	Gln	Phe	Ser	Lys	Phe	Gly		
905					910					915				920			
aac	cta	tca	act	tac	tta	cgg	ggc	aag	aga	aat	gaa	ttt	gtt	ccc	tat		3017
Asn	Leu	Ser	Thr	Tyr	Leu	Arg	Gly	Lys	Arg	Asn	Glu	Phe	Val	Pro	Tyr		
				925					930					935			
aag	agc	aaa	ggg	gca	cgc	ttc	cgc	cag	ggc	aag	gac	tac	gtt	ggg	gag		3065
Lys	Ser	Lys	Gly	Ala	Arg	Phe	Arg	Gln	Gly	Lys	Asp	Tyr	Val	Gly	Glu		
			940					945					950				
ctc	tcc	gtg	gat	ctg	aaa	aga	cgc	ttg	gac	agc	atc	acc	agc	agc	cag		3113
Leu	Ser	Val	Asp	Leu	Lys	Arg	Arg	Leu	Asp	Ser	Ile	Thr	Ser	Ser	Gln		
		955					960					965					
agc	tct	gcc	agc	tca	ggc	ttt	gtt	gag	gag	aaa	tcg	ctc	agt	gat	gta		3161
Ser	Ser	Ala	Ser	Ser	Gly	Phe	Val	Glu	Glu	Lys	Ser	Leu	Ser	Asp	Val		
	970					975					980						
gag	gaa	gaa	gaa	gct	tct	gaa	gaa	ctg	tac	aag	gac	ttc	ctg	acc	ttg		3209
Glu	Glu	Glu	Glu	Ala	Ser	Glu	Glu	Leu	Tyr	Lys	Asp	Phe	Leu	Thr	Leu		
985					990					995					1000		
gag	cat	ctc	atc	tgt	tac	agc	ttc	caa	gtg	gct	aag	ggc	atg	gag			3254
Glu	His	Leu	Ile	Cys	Tyr	Ser	Phe	Gln	Val	Ala	Lys	Gly	Met	Glu			
				1005					1010					1015			
ttc	ttg	gca	tca	agg	aag	tgt	atc	cac	agg	gac	ctg	gca	gca	cga			3299
Phe	Leu	Ala	Ser	Arg	Lys	Cys	Ile	His	Arg	Asp	Leu	Ala	Ala	Arg			
				1020					1025					1030			
aac	att	ctc	cta	tcg	gag	aag	aat	gtg	gtt	aag	atc	tgt	gac	ttc			3344
Asn	Ile	Leu	Leu	Ser	Glu	Lys	Asn	Val	Val	Lys	Ile	Cys	Asp	Phe			
				1035					1040					1045			
ggc	ttg	gcc	cgg	gac	att	tat	aaa	gac	ccg	gat	tat	gtc	aga	aaa			3389
Gly	Leu	Ala	Arg	Asp	Ile	Tyr	Lys	Asp	Pro	Asp	Tyr	Val	Arg	Lys			
				1050					1055					1060			
gga	gat	gcc	cga	ctc	cct	ttg	aag	tgg	atg	gcc	ccg	gaa	acc	att			3434
Gly	Asp	Ala	Arg	Leu	Pro	Leu	Lys	Trp	Met	Ala	Pro	Glu	Thr	Ile			
				1065					1070					1075			
ttt	gac	aga	gta	tac	aca	att	cag	agc	gat	gtg	tgg	tct	ttc	ggt			3479
Phe	Asp	Arg	Val	Tyr	Thr	Ile	Gln	Ser	Asp	Val	Trp	Ser	Phe	Gly			
				1080					1085					1090			
gtg	ttg	ctc	tgg	gaa	ata	ttt	tcc	tta	ggt	gcc	tcc	cca	tac	cct			3524
Val	Leu	Leu	Trp	Glu	Ile	Phe	Ser	Leu	Gly	Ala	Ser	Pro	Tyr	Pro			

1095										1100					1105					
ggg gtc aag att gat	gaa gaa ttt tgt agg	aga ttg aaa gaa gga	3569																	
Gly Val Lys Ile Asp	Glu Glu Phe Cys Arg	Arg Leu Lys Glu Gly																		
1110	1115	1120																		
act aga atg cgg gct	cct gac tac act acc	cca gaa atg tac cag	3614																	
Thr Arg Met Arg Ala	Pro Asp Tyr Thr Thr	Pro Glu Met Tyr Gln																		
1125	1130	1135																		
acc atg ctg gac tgc	tgg cat gag gac ccc	aac cag aga ccc tcg	3659																	
Thr Met Leu Asp Cys	Trp His Glu Asp Pro	Asn Gln Arg Pro Ser																		
1140	1145	1150																		
ttt tca gag ttg gtg	gag cat ttg gga aac	ctc ctg caa gca aat	3704																	
Phe Ser Glu Leu Val	Glu His Leu Gly Asn	Leu Leu Gln Ala Asn																		
1155	1160	1165																		
gcg cag cag gat ggc	aaa gac tat att gtt	ctt cca atg tca gag	3749																	
Ala Gln Gln Asp Gly	Lys Asp Tyr Ile Val	Leu Pro Met Ser Glu																		
1170	1175	1180																		
aca ctg agc atg gaa	gag gat tct gga ctc	tcc ctg cct acc tca	3794																	
Thr Leu Ser Met Glu	Glu Asp Ser Gly Leu	Ser Leu Pro Thr Ser																		
1185	1190	1195																		
cct gtt tcc tgt atg	gag gaa gag gaa gtg	tgc gac ccc aaa ttc	3839																	
Pro Val Ser Cys Met	Glu Glu Glu Glu Val	Cys Asp Pro Lys Phe																		
1200	1205	1210																		
cat tat gac aac aca	gca gga atc agt cat	tat ctc cag aac agt	3884																	
His Tyr Asp Asn Thr	Ala Gly Ile Ser His	Tyr Leu Gln Asn Ser																		
1215	1220	1225																		
aag cga aag agc cgg	cca gtg agt gta aaa	aca ttt gaa gat atc	3929																	
Lys Arg Lys Ser Arg	Pro Val Ser Val Lys	Thr Phe Glu Asp Ile																		
1230	1235	1240																		
cca ttg gag gaa cca	gaa gta aaa gtg atc	cca gat gac agc cag	3974																	
Pro Leu Glu Glu Pro	Glu Val Lys Val Ile	Pro Asp Asp Ser Gln																		
1245	1250	1255																		
aca gac agt ggg atg	gtc ctt gca tca gaa	gag ctg aaa act ctg	4019																	
Thr Asp Ser Gly Met	Val Leu Ala Ser Glu	Glu Leu Lys Thr Leu																		
1260	1265	1270																		
gaa gac agg aac aaa	tta tct cca tct ttt	ggg gga atg atg ccc	4064																	
Glu Asp Arg Asn Lys	Leu Ser Pro Ser Phe	Gly Gly Met Met Pro																		
1275	1280	1285																		
agt aaa agc agg gag	tct gtg gcc tcg gaa	ggc tcc aac cag acc	4109																	
Ser Lys Ser Arg Glu	Ser Val Ala Ser Glu	Gly Ser Asn Gln Thr																		
1290	1295	1300																		
agt ggc tac cag tct	ggg tat cac tca gat	gac aca gac acc acc	4154																	
Ser Gly Tyr Gln Ser	Gly Tyr His Ser Asp	Asp Thr Asp Thr Thr																		
1305	1310	1315																		
gtg tac tcc agc gac	gag gca gga ctt tta	aag atg gtg gat gct	4199																	
Val Tyr Ser Ser Asp	Glu Ala Gly Leu Leu	Lys Met Val Asp Ala																		
1320	1325	1330																		
gca gtt cac gct gac	tca ggg acc aca ctg	agc tca cct cct gtt	4244																	
Ala Val His Ala Asp	Ser Gly Thr Thr Leu	Ser Ser Pro Pro Val																		
1335	1340	1345																		
taa atggaag tggctcctgtc ccggctccgc ccccaactcc tggaaatcac gagagaggtg			4304																	
ctgcttagat tttcaagtgt tggtctttcc accaccggga agtagccaca tttgattttc			4364																	

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atTTTTggag gagggacctc agactgcaag gagcttgtcc tcagggcatt tccagagaag 4424
atgccccatga cccaagaatg tgttgactct actctctttt ccattcattt aaaagtccta 4484
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tggcggtaaa ggctcaggct ggtgttcttc ctctatctcc actcctgtca ggcccccaag 5204
tcctcagtat tttagctttg tggcttcctg atggcagaaa aatcttaatt ggttggtttg 5264
ctctccagat aatcactagc cagatttcga aattactttt tagccgaggt tatgataaca 5324
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<212> PRT
<213> Unknown

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<223> SEQ ID NO: 8
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Thr Arg Ala Ala Ser Val Gly Leu Thr Gly Asp Phe Leu His Pro Pro
          20          25          30

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Lys Leu Ser Thr Gln Lys Asp Ile Leu Thr Ile Leu Ala Asn Thr Thr
          35          40          45

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Leu Gln Ile Thr Cys Arg Gly Gln Arg Asp Leu Asp Trp Leu Trp Pro
          50          55          60

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Asn Ala Gln Arg Asp Ser Glu Glu Arg Val Leu Val Thr Glu Cys Gly
65          70          75          80

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Gly Gly Asp Ser Ile Phe Cys Lys Thr Leu Thr Ile Pro Arg Val Val

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				85					90					95	
Gly	Asn	Asp	Thr	Gly	Ala	Tyr	Lys	Cys	Ser	Tyr	Arg	Asp	Val	Asp	Ile
			100					105					110		
Ala	Ser	Thr	Val	Tyr	Val	Tyr	Val	Arg	Asp	Tyr	Arg	Ser	Pro	Phe	Ile
		115					120					125			
Ala	Ser	Val	Ser	Asp	Gln	His	Gly	Ile	Val	Tyr	Ile	Thr	Glu	Asn	Lys
		130				135					140				
Asn	Lys	Thr	Val	Val	Ile	Pro	Cys	Arg	Gly	Ser	Ile	Ser	Asn	Leu	Asn
145					150					155					160
Val	Ser	Leu	Cys	Ala	Arg	Tyr	Pro	Glu	Lys	Arg	Phe	Val	Pro	Asp	Gly
				165					170					175	
Asn	Arg	Ile	Ser	Trp	Asp	Ser	Glu	Ile	Gly	Phe	Thr	Leu	Pro	Ser	Tyr
			180					185					190		
Met	Ile	Ser	Tyr	Ala	Gly	Met	Val	Phe	Cys	Glu	Ala	Lys	Ile	Asn	Asp
		195					200					205			
Glu	Thr	Tyr	Gln	Ser	Ile	Met	Tyr	Ile	Val	Val	Val	Val	Gly	Tyr	Arg
		210				215						220			
Ile	Tyr	Asp	Val	Ile	Leu	Ser	Pro	Pro	His	Glu	Ile	Glu	Leu	Ser	Ala
225					230					235					240
Gly	Glu	Lys	Leu	Val	Leu	Asn	Cys	Thr	Ala	Arg	Thr	Glu	Leu	Asn	Val
				245					250					255	
Gly	Leu	Asp	Phe	Thr	Trp	His	Ser	Pro	Pro	Ser	Lys	Ser	His	His	Lys
			260					265					270		
Lys	Ile	Val	Asn	Arg	Asp	Val	Lys	Pro	Phe	Pro	Gly	Thr	Val	Ala	Lys
		275					280					285			
Met	Phe	Leu	Ser	Thr	Leu	Thr	Ile	Glu	Ser	Val	Thr	Lys	Ser	Asp	Gln
		290				295					300				
Gly	Glu	Tyr	Thr	Cys	Val	Ala	Ser	Ser	Gly	Arg	Met	Ile	Lys	Arg	Asn
305					310					315					320
Arg	Thr	Phe	Val	Arg	Val	His	Thr	Lys	Pro	Phe	Ile	Ala	Phe	Gly	Ser
				325					330					335	
Gly	Met	Lys	Ser	Leu	Val	Glu	Ala	Thr	Val	Gly	Ser	Gln	Val	Arg	Ile
			340					345					350		
Pro	Val	Lys	Tyr	Leu	Ser	Tyr	Pro	Ala	Pro	Asp	Ile	Lys	Trp	Tyr	Arg
		355					360					365			

Asn Gly Arg Pro Ile Glu Ser Asn Tyr Thr Met Ile Val Gly Asp Glu
 370 375 380

Leu Thr Ile Met Glu Val Thr Glu Arg Asp Ala Gly Asn Tyr Thr Val
 385 390 395 400

Ile Leu Thr Asn Pro Ile Ser Met Glu Lys Gln Ser His Met Val Ser
 405 410 415

Leu Val Val Asn Val Pro Pro Gln Ile Gly Glu Lys Ala Leu Ile Ser
 420 425 430

Pro Met Asp Ser Tyr Gln Tyr Gly Thr Met Gln Thr Leu Thr Cys Thr
 435 440 445

Val Tyr Ala Asn Pro Pro Leu His His Ile Gln Trp Tyr Trp Gln Leu
 450 455 460

Glu Glu Ala Cys Ser Tyr Arg Pro Gly Gln Thr Ser Pro Tyr Ala Cys
 465 470 475 480

Lys Glu Trp Arg His Val Glu Asp Phe Gln Gly Gly Asn Lys Ile Glu
 485 490 495

Val Thr Lys Asn Gln Tyr Ala Leu Ile Glu Gly Lys Asn Lys Thr Val
 500 505 510

Ser Thr Leu Val Ile Gln Ala Ala Asn Val Ser Ala Leu Tyr Lys Cys
 515 520 525

Glu Ala Ile Asn Lys Ala Gly Arg Gly Glu Arg Val Ile Ser Phe His
 530 535 540

Val Ile Arg Gly Pro Glu Ile Thr Val Gln Pro Ala Ala Gln Pro Thr
 545 550 555 560

Glu Gln Glu Ser Val Ser Leu Leu Cys Thr Ala Asp Arg Asn Thr Phe
 565 570 575

Glu Asn Leu Thr Trp Tyr Lys Leu Gly Ser Gln Ala Thr Ser Val His
 580 585 590

Met Gly Glu Ser Leu Thr Pro Val Cys Lys Asn Leu Asp Ala Leu Trp
 595 600 605

Lys Leu Asn Gly Thr Met Phe Ser Asn Ser Thr Asn Asp Ile Leu Ile
 610 615 620

Val Ala Phe Gln Asn Ala Ser Leu Gln Asp Gln Gly Asp Tyr Val Cys
 625 630 635 640

Ser Ala Gln Asp Lys Lys Thr Lys Lys Arg His Cys Leu Val Lys Gln
 645 650 655
 Leu Ile Ile Leu Glu Arg Met Ala Pro Met Ile Thr Gly Asn Leu Glu
 660 665 670
 Asn Gln Thr Thr Thr Ile Gly Glu Thr Ile Glu Val Thr Cys Pro Ala
 675 680 685
 Ser Gly Asn Pro Thr Pro His Ile Thr Trp Phe Lys Asp Asn Glu Thr
 690 695 700
 Leu Val Glu Asp Ser Gly Ile Val Leu Arg Asp Gly Asn Arg Asn Leu
 705 710 715 720
 Thr Ile Arg Arg Val Arg Lys Glu Asp Gly Gly Leu Tyr Thr Cys Gln
 725 730 735
 Ala Cys Asn Val Leu Gly Cys Ala Arg Ala Glu Thr Leu Phe Ile Ile
 740 745 750
 Glu Gly Ala Gln Glu Lys Thr Asn Leu Glu Val Ile Ile Leu Val Gly
 755 760 765
 Thr Ala Val Ile Ala Met Phe Phe Trp Leu Leu Leu Val Ile Val Leu
 770 775 780
 Arg Thr Val Lys Arg Ala Asn Glu Gly Glu Leu Lys Thr Gly Tyr Leu
 785 790 795 800
 Ser Ile Val Met Asp Pro Asp Glu Leu Pro Leu Asp Glu Arg Cys Glu
 805 810 815
 Arg Leu Pro Tyr Asp Ala Ser Lys Trp Glu Phe Pro Arg Asp Arg Leu
 820 825 830
 Lys Leu Gly Lys Pro Leu Gly Arg Gly Ala Phe Gly Gln Val Ile Glu
 835 840 845
 Ala Asp Ala Phe Gly Ile Asp Lys Thr Ala Thr Cys Lys Thr Val Ala
 850 855 860
 Val Lys Met Leu Lys Glu Gly Ala Thr His Ser Glu His Arg Ala Leu
 865 870 875 880
 Met Ser Glu Leu Lys Ile Leu Ile His Ile Gly His His Leu Asn Val
 885 890 895
 Val Asn Leu Leu Gly Ala Cys Thr Lys Pro Gly Gly Pro Leu Met Val
 900 905 910

Ile Leu Gln Phe Ser Lys Phe Gly Asn Leu Ser Thr Tyr Leu Arg Gly
 915 920 925

Lys Arg Asn Glu Phe Val Pro Tyr Lys Ser Lys Gly Ala Arg Phe Arg
 930 935 940

Gln Gly Lys Asp Tyr Val Gly Glu Leu Ser Val Asp Leu Lys Arg Arg
 945 950 955 960

Leu Asp Ser Ile Thr Ser Ser Gln Ser Ser Ala Ser Ser Gly Phe Val
 965 970 975

Glu Glu Lys Ser Leu Ser Asp Val Glu Glu Glu Glu Ala Ser Glu Glu
 980 985 990

Leu Tyr Lys Asp Phe Leu Thr Leu Glu His Leu Ile Cys Tyr Ser Phe
 995 1000 1005

Gln Val Ala Lys Gly Met Glu Phe Leu Ala Ser Arg Lys Cys Ile
 1010 1015 1020

His Arg Asp Leu Ala Ala Arg Asn Ile Leu Leu Ser Glu Lys Asn
 1025 1030 1035

Val Val Lys Ile Cys Asp Phe Gly Leu Ala Arg Asp Ile Tyr Lys
 1040 1045 1050

Asp Pro Asp Tyr Val Arg Lys Gly Asp Ala Arg Leu Pro Leu Lys
 1055 1060 1065

Trp Met Ala Pro Glu Thr Ile Phe Asp Arg Val Tyr Thr Ile Gln
 1070 1075 1080

Ser Asp Val Trp Ser Phe Gly Val Leu Leu Trp Glu Ile Phe Ser
 1085 1090 1095

Leu Gly Ala Ser Pro Tyr Pro Gly Val Lys Ile Asp Glu Glu Phe
 1100 1105 1110

Cys Arg Arg Leu Lys Glu Gly Thr Arg Met Arg Ala Pro Asp Tyr
 1115 1120 1125

Thr Thr Pro Glu Met Tyr Gln Thr Met Leu Asp Cys Trp His Glu
 1130 1135 1140

Asp Pro Asn Gln Arg Pro Ser Phe Ser Glu Leu Val Glu His Leu
 1145 1150 1155

Gly Asn Leu Leu Gln Ala Asn Ala Gln Gln Asp Gly Lys Asp Tyr
 1160 1165 1170

Ile Val Leu Pro Met Ser Glu Thr Leu Ser Met Glu Glu Asp Ser

1175	1180	1185
Gly Leu Ser Leu Pro Thr	Ser Pro Val Ser Cys Met	Glu Glu Glu
1190	1195	1200
Glu Val Cys Asp Pro Lys	Phe His Tyr Asp Asn Thr	Ala Gly Ile
1205	1210	1215
Ser His Tyr Leu Gln Asn	Ser Lys Arg Lys Ser Arg	Pro Val Ser
1220	1225	1230
Val Lys Thr Phe Glu Asp	Ile Pro Leu Glu Glu Pro	Glu Val Lys
1235	1240	1245
Val Ile Pro Asp Asp Ser	Gln Thr Asp Ser Gly Met	Val Leu Ala
1250	1255	1260
Ser Glu Glu Leu Lys Thr	Leu Glu Asp Arg Asn Lys	Leu Ser Pro
1265	1270	1275
Ser Phe Gly Gly Met Met	Pro Ser Lys Ser Arg Glu	Ser Val Ala
1280	1285	1290
Ser Glu Gly Ser Asn Gln	Thr Ser Gly Tyr Gln Ser	Gly Tyr His
1295	1300	1305
Ser Asp Asp Thr Asp Thr	Thr Val Tyr Ser Ser Asp	Glu Ala Gly
1310	1315	1320
Leu Leu Lys Met Val Asp	Ala Ala Val His Ala Asp	Ser Gly Thr
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Thr Leu Ser Ser Pro Pro	Val	
1340	1345	

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 <212> PRT
 <213> Unknown

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20	25	30	

Lys Phe Gly	Asn Leu Ser Thr	Tyr Leu Arg Gly	Lys Arg Asn Glu Phe
35	40	45	

Val Pro Tyr Lys Ser Lys Gly Ala Arg Phe Arg Gln Gly Lys Asp Tyr
50 55 60

Val Gly Glu Leu Ser Val Asp Leu Lys Arg Arg Leu Asp Ser Ile Thr
65 70 75 80

Ser Ser Gln Ser Ser Ala Ser Ser Gly Phe Val Glu Glu Lys Ser Leu
85 90 95

Ser Asp Val Glu Glu Glu Glu Ala Ser Glu Glu Leu Tyr Lys Asp Phe
100 105 110

Leu Thr Leu Glu His Leu Ile Cys Tyr Ser Phe Gln Val Ala Lys Gly
115 120 125

Met Glu Phe Leu Ala Ser Arg Lys Cys Ile His Arg Asp Leu Ala Ala
130 135 140

Arg Asn Ile Leu Leu Ser Glu Lys Asn Val Val Lys Ile Cys Asp Phe
145 150 155 160

Gly Leu Ala Arg Asp Ile Tyr Lys Asp Pro Asp Tyr Val Arg Lys Gly
165 170 175

Asp Ala Arg Leu
180

<210> 10
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<212> PRT
<213> Unknown

<220>
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Ala Cys Thr Lys Pro Gly Gly Pro Leu Met Val Ile Val Glu Phe Cys
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Lys Phe Asp Asn Leu Ser Thr Tyr Leu Arg Ser Lys Arg Asn Glu Phe
35 40 45

Val Pro Tyr Lys Thr Lys Gly Ala Arg Phe Arg Gln Gly Lys Asp Tyr
50 55 60

Val Gly Ala Ile Pro Val Asp Leu Lys Arg Arg Leu Asp Ser Ile Thr
65 70 75 80

Ser Ser Gln Ser Ser Ala Ser Ser Gly Phe Val Glu Glu Lys Ser Leu
85 90 95

Ser Asp Val Glu Glu Glu Glu Ala Pro Glu Asp Leu Tyr Lys Asp Phe
100 105 110

Leu Thr Leu Glu His Leu Ile Cys Tyr Ser Phe Gln Val Ala Lys Gly
115 120 125

Met Glu Phe Leu Ala Ser Arg Lys Cys Ile His Arg Asp Leu Ala Ala
130 135 140

Arg Asn Ile Leu Leu Ser Glu Lys Asn Val Val Lys Ile Cys Asp Phe
145 150 155 160

Gly Leu Ala Arg Asp Ile Tyr Lys Asp Pro Asp Tyr Val Arg Lys Gly
165 170 175

Asp Ala Arg Leu
180

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<212> PRT
<213> Unknown

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<223> SEQ ID NO: 11

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Ile Leu Ile His Ile Gly His His Leu Asn Val Val Asn Leu Leu Gly
1 5 10 15

Ala Cys Thr Lys Pro Gly Gly Pro Leu Met Val Ile Val Glu Phe Cys
20 25 30

Lys Phe Gly Asn Leu Ser Thr Tyr Leu Arg Gly Lys Arg Asn Glu Phe
35 40 45

Val Pro Tyr Lys Ser Lys Gly Ala Arg Phe Arg Ser Gly Lys Asp Tyr
50 55 60

Val Gly Glu Leu Ser Val Asp Leu Lys Arg Arg Leu Asp Ser Ile Thr
65 70 75 80

Ser Ser Gln Ser Ser Ala Ser Ser Gly Phe Val Glu Glu Lys Ser Leu
85 90 95

Ser Asp Val Glu Glu Glu Glu Ala Ser Glu Glu Leu Tyr Lys Asp Phe
100 105 110

Leu Thr Leu Glu His Leu Ile Cys Tyr Ser Phe Gln Val Ala Lys Gly
115 120 125

Met Glu Phe Leu Ala Ser Arg Lys Cys Ile His Arg Asp Leu Ala Ala
130 135 140

Arg Asn Ile Leu Leu Ser Glu Lys Asn Val Val Lys Ile Cys Asp Phe
145 150 155 160

Gly Leu Ala Arg Asp Ile Tyr Lys Asp Pro Asp Tyr Val Arg Lys Gly
165 170 175

Asp Ala Arg Leu
180